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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/755,856	01/12/2004	Maurice Gell	UCT-0040	8424

23413 7590 09/11/2007  
CANTOR COLBURN, LLP  
55 GRIFFIN ROAD SOUTH  
BLOOMFIELD, CT 06002

**RECEIVED**

SEP 17 2007

**CANTOR COLBURN LLP**

EXAMINER
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SAVAGE, JASON L

ART UNIT	PAPER NUMBER
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1775

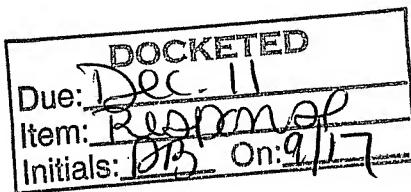
MAIL DATE	DELIVERY MODE
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09/11/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/755,856	GELL ET AL.
	Examiner	Art Unit
	Jason L. Savage	1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 07 August 2007.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-21,23,25-38,40 and 43-68 is/are pending in the application.
- 4a) Of the above claim(s) 1-16,19-21,23,25-38,40, 45-62 and 65-68 is/are withdrawn from consideration.
- 5) Claim(s) 63 is/are allowed.
- 6) Claim(s) 64 is/are rejected.
- 7) Claim(s) 17,18, 43, 44 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. 20070827.
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_.

***Prior Action Vacated***

As discussed in the interview with Michelle Henderson on 8-27-07, the previous Office Action mailed 8-16-07 is vacated and replaced by the present Office Action.

***Election/Restrictions***

Newly amended and newly submitted claims 16, 19-21, 23, 25-31, 33-38, 40, 45-52, 59-60 and 65-68 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

The previously examined claims as originally filed were drawn to a material comprising splats having an average diameter of less than or equal to about 2 micrometers.

The originally elected invention and the inventions in the claims recited above are directed to related products. The related inventions are distinct if the (1) the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect; (2) the inventions do not overlap in scope, i.e., are mutually exclusive; and (3) the inventions as claimed are not obvious variants. See MPEP § 806.05(j). In the instant case, the inventions as claimed have a different design such as the new claims are silent to the material having any splats. Furthermore, the inventions as claimed do not encompass overlapping subject matter and there is nothing of record to show them to be obvious variants.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 16, 19-21, 23, 25-31, 33-38, 40, 45-52, 59-60 and 65-68 have been withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 64 is rejected under 35 U.S.C. 103(a) as being unpatentable over Padture et al. (Acta Mater. 49 (2001) 2251-2257 – article “Towards Durable Thermal Barrier Coatings with Novel Microstructures Deposited by Solution Precursor Plasma Spray) in view of Chow et al. (US 2002/0031658).

Padture discloses a thermal sprayed coating comprising containing novel microstructures which is formed by solution precursor plasma spray (abstract). During the interview with Dr. Gell's on 7-18-07, it was stated that the solution precursor plasma spay method described by Padture resulted in splats having the claimed size, but were not able to be identified with the processing method used at the time. As such, Padture would anticipate the claim limitations drawn to the splat size. Padture teaches the porosity may be 16.4% (p. 2253, Results)

but is silent to forming a coating having the claimed splat structures wherein the porosity is 10% or less.

Chow discloses a method thermal spray coating employed fine droplets which form aggregate splat microstructures having a dimensions smaller than those using powder feedstock (par. [0024]). Chow further teaches that the coatings may be subjected to post deposition techniques which allow for tailoring and adjustment of the coating properties including the porosity (par. [0039]). It would have been within the purview of one of ordinary skill in the art to have recognized that the porosity of the coating of Padture could be adjusted from 16.4% to other porosity values in order to tailor the material to be suited for the application in which it will be used. Absent a teaching of the criticality or showing of unexpected results when the porosity of the claimed coating is 10% or less, it would not provide a patentable distinction over the prior art of Padture as modified by Chow.

Regarding the limitation that coating have no inter pass boundaries within about 50 micrometers of an interface between the substrate and the coating, since Padture is silent to the formation of inter pass boundaries, it is the position of the Examiner that no inter pass boundaries are contained in the coating. As such, the coating of Padture as modified by Chow would meet the limitation of having no inter pass boundaries within about 50 micrometers of an interface between the substrate and the coating.

Claim 64 is rejected under 35 U.S.C. 103(a) as obvious over Chow et al. (US 2002/0031658).

Chow discloses a method thermal spray coating employed fine droplets which form aggregate splat microstructures having a dimensions smaller than those using powder feedstock (par. [0024]). Chow further teaches that the splat particle microstructures in the formed coating have a particle size less than 0.1 micron (par[0031]).

Chow does not explicitly recite the porosity of the material, however it teaches that coatings may be subjected to post deposition techniques which allow for tailoring and adjustment of the coating properties including the porosity (par. [0039]). It would have been within the purview of one of ordinary skill in the art to have formed the material to have a porosity which would allow for it to be suitable in the application in which it is intended to be used.

Regarding the limitation that coating have no inter pass boundaries within about 50 micrometers of an interface between the substrate and the coating, since Chow is silent to the formation of inter pass boundaries and teaches coatings which are a single layer/material (par[0037]), it is the position of the Examiner that no inter pass boundaries are contained in the coating. As such, the coating of Chow would meet the limitation of having no inter pass boundaries within about 50 micrometers of an interface between the substrate and the coating.

***Allowable Subject Matter***

Claim 63 is allowed.

Claims 17-18 and 43-44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason L. Savage whose telephone number is 571-272-1542. The examiner can normally be reached on M-F 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jason Savage  
8-31-07



JENNIFER C. MCNEIL  
SUPERVISORY PATENT EXAMINER  
a/4/7

<b>Interview Summary</b>	Application No.	Applicant(s)
	10/755,856	GELL ET AL.
	Examiner Jason L. Savage	Art Unit 1775

All participants (applicant, applicant's representative, PTO personnel):

(1) Jason L. Savage. (3) \_\_\_\_\_.

(2) Michelle Henderson. (4) \_\_\_\_\_.

Date of Interview: 27 August 2007.

Type: a) Telephonic b) Video Conference  
c) Personal [copy given to: 1) applicant 2) applicant's representative]

Exhibit shown or demonstration conducted: d) Yes e) No.  
If Yes, brief description: \_\_\_\_\_.

Claim(s) discussed: 1-21,23 and 25-338.

Identification of prior art discussed: N/A.

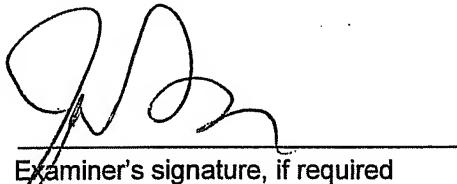
Agreement with respect to the claims f) was reached. g) was not reached. h) N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Applicant contacted Examiner to inquire if the Office Action of 8/16/07 was based on the amendment filed 8-7-07. The Examiner stated that the Office Action was based on an older version of the claims and that a new Office Action would be sent out based on the claims as presently amended.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.



Examiner's signature, if required

## Summary of Record of Interview Requirements

### Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

### Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

#### Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

#### 37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,  
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

### Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.